Stat 280 B01 Syllabus (Spring 2014)

Jingjing Yang

January 21, 2014

1 Important matters

- Class meets 10:50am - 12:05pm, Tuesday & Thursday. Location: SEW 303
- Lab: 07:00pm - 8:59pm, Thursday. Location: DCH Sym II Lab
  Labbie: Mauricio Arreola-Garcia, ma24@rice.edu
- TA: Donald Rogers, donald.rogers@rice.edu
- Text: Introduction to the Probability and Statistics. Mendenhall, Beaver, and Beaver. 14th Edition
- Owlspace will be used for submitting homework (word or pdf file is recommended, no late homework is accepted), posting course material, making important announcements.
- Statistical software **R** will be used.
  Free download at `http://www.r-project.org`.
  Available video introductions on YOUTUBE at `http://www.youtube.com/playlist?list=PLOU2XLYxmsIK9qQfztXeybpHvru-TrqAP`.

  You may also use Excel, available video introductions on YOUTUBE at `https://www.youtube.com/playlist?list=PL1FA1F9ACCC12582F`, but **R** is recommended for doing Statistics.

  No previous experience is required or expected.

2 Instructor Jingjing Yang

- Office: DH 2077; Email: jy13@rice.edu (preferred); Cell: 832-231-4879
- Office hour: Monday 1:00pm - 2:00pm. Location DH 3110

3 Purposes of class

This course is meant to give you a solid grounding in the basic principles of statistical analysis. At the end of this course:

- You will understand the basic principles which underlie all statistical analyses.
- You be be able to perform a range of basic statistical analyses.
- You will be able to understand the ideas behind more advanced analyses, even if you do not completely understand all the details of the analyses or are not able to perform them yourself.
- You will be able to consult effectively with an expert statistician if the need arises in your work for the use of advanced techniques.

4 Course components

- Lectures.
- Reading assignments.
- Tutorial materials primarily be used to teach software skills of **R** and Excel.
- Labs. Labs will be used to make sure you have the skills necessary to work the assignments and to answer the questions which will be on exams. Labs will focus on how the statistical analyses are actually performed with special emphasis on **R** and Excel.
- Homework assignments. There will be weekly homework assignments. These will be posted to Owlspace. I will try to remember to mention them in class, but it is your responsibility to check Owlspace. The assignments are due whether I remember to announcement them in class or not. Usually, I will make an assignment on Tuesday or Thursday of each week; the assignment will be due the following Tuesday or Thursday (midnight). This schedule will be modified for holidays. Your lowest homework score will be dropped.
- Exams. There will be two midterm-exams (written) and a final.
  The midterm-exams will be in class, closed book/notes. You may bring a calculator and a cheat-sheet, no larger than a A4 paper.
  The final will be comprehensive, but focusing more on the material after the second midterm-exams. The final will be taken home, and consisted of two parts: a written part & a computation part. Score of your final exam could replace your lower score in previous midterm-exams.

- Extra credit problems may be given in the homework and exams.

5 Grading

Homework (20%), exam1 (25%), exam2 (25%), final (30%). I guarantee the following scale; thus, if you get an 76, your are guaranteed a B. I reserve the right to adjust the scale downward if I feel that a revised scale would better reflect my evaluation of the class achievement. In such a case, 76 might be at B+.

96 - 100	A+
90 - 95.9	A
86-89.9	A-
80-85.9	B+
76-79.9	B
70-75.9	B-
66-69.9	C+
60-65.9	C
56-59.9	C-
50-55.9	D+
40-49.9	D
36-39.9	D-
<36	F

6 Course Outline

This is a rough outline of the material. This may be adjusted depending on how the class progresses.

- Week 1 1/14, 1/16: Chapter 1 - graphs
- Week 2 1/21, 1/23: Chapter 2 - numerical summaries
- Week 3 1/28, 1/30: Chapter 3 - bivariate data
- Week 4 2/4, 2/6: Chapter 4 - probability
- Week 5 2/11, 2/13: review and test 1
- Week 6 2/18, 2/20: Chapter 5 - discrete distributions
- Week 7 2/25, 2/27: Chapter 6 - the normal distribution
- Week 8 3/1, 3/9: Spring Break, no class

- Week 9 3/11, 3/13: Chapter 7 - sampling distributions
- Week 10 3/18, 3/20: Chapter 8 - large sample estimation
- Week 11 3/25, 3/27: review and test 2.
- Week 12 4/1: Chapter 9 large sample tests of hypotheses; 4/3 (no class)
- Week 13 4/8 Chapter 9 continued; 4/10 Chapter 10 - inference from small samples
- Week 14 4/15 Chapter 10 continued; 4/17 Chapter 12 - linear regression and correlation
- Week 15 4/22 Chapter 12 continued, 4/24 review for final
- 4/30 - 5/7: Comprehensive final exam (taken home, due at 5:00pm May 7, 2014)

7 Miscellaneous

- If you know that you will be gone due to official school activities, contact me before your absence to make arrangement for the final exam during your absence.
- If you have a disability that requires accommodation, please contact both me and Disability Support Services in Allen Center. Possible accommodations include, but are not limited to, extra time for tests, special settings for tests, the services of a note taker, and permission to record lectures. I will treat your request as confidential and make the accommodation as confidential as is practically possible.
- I would like to acknowledge Dr. Neely Atkinson for allowing me to use his previous syllabus. Appreciate it very much.